

C-7647

## SQUARYLIUM COMPOUNDS, AND PROCESSES AND INTERMEDIATES FOR THE SYNTHESIS OF THESE COMPOUNDS

## Abstract of the Disclosure

Squarylium compounds of the formula:

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wherein  $Q^1$  and  $Q^2$  are each independently a pyrylium, thiopyrylium, selenopyrylium, benzpyrylium, benzthiopyrylium or benzselenopyrylium nucleus, and R<sup>1</sup> and R<sup>2</sup> are each independently an aliphatic or cycloaliphatic group, can be prepared by reacting a squaric acid derivative of the formula:

10011

$$Q = C \longrightarrow O$$
 (II)

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with a compound of the formula Q<sup>2</sup>CH<sub>2</sub>R<sup>2</sup> in the presence of a base. The derivatives of Formula II may be prepared by condensing a 2,3,4,4-tetrahalocyclobut-2-en-1-one with a compound of the formula Q1CH2R1 in the presence of a base to produce a compound of the formula:

10020

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$$Q^{1} = C \xrightarrow{\begin{array}{c} \\ \\ \\ \\ \\ \end{array}} O$$
 (III)

wherein Q<sup>1</sup> and R<sup>1</sup> are as defined above, and X represents chlorine or bromine, and hydrolyzing the compound of Formula III. Alternatively, the derivatives of Formula II may be prepared by reacting a diester, monoacid chloride monoester or diacid chloride of squaric acid with a compound of the formula Q<sup>1</sup>CH<sub>2</sub>R<sup>1</sup> in the presence of a base, followed by hydrolysis of the resultant monoacid chloride or monoester derivative of the compound of Formula II to the parent compound.